



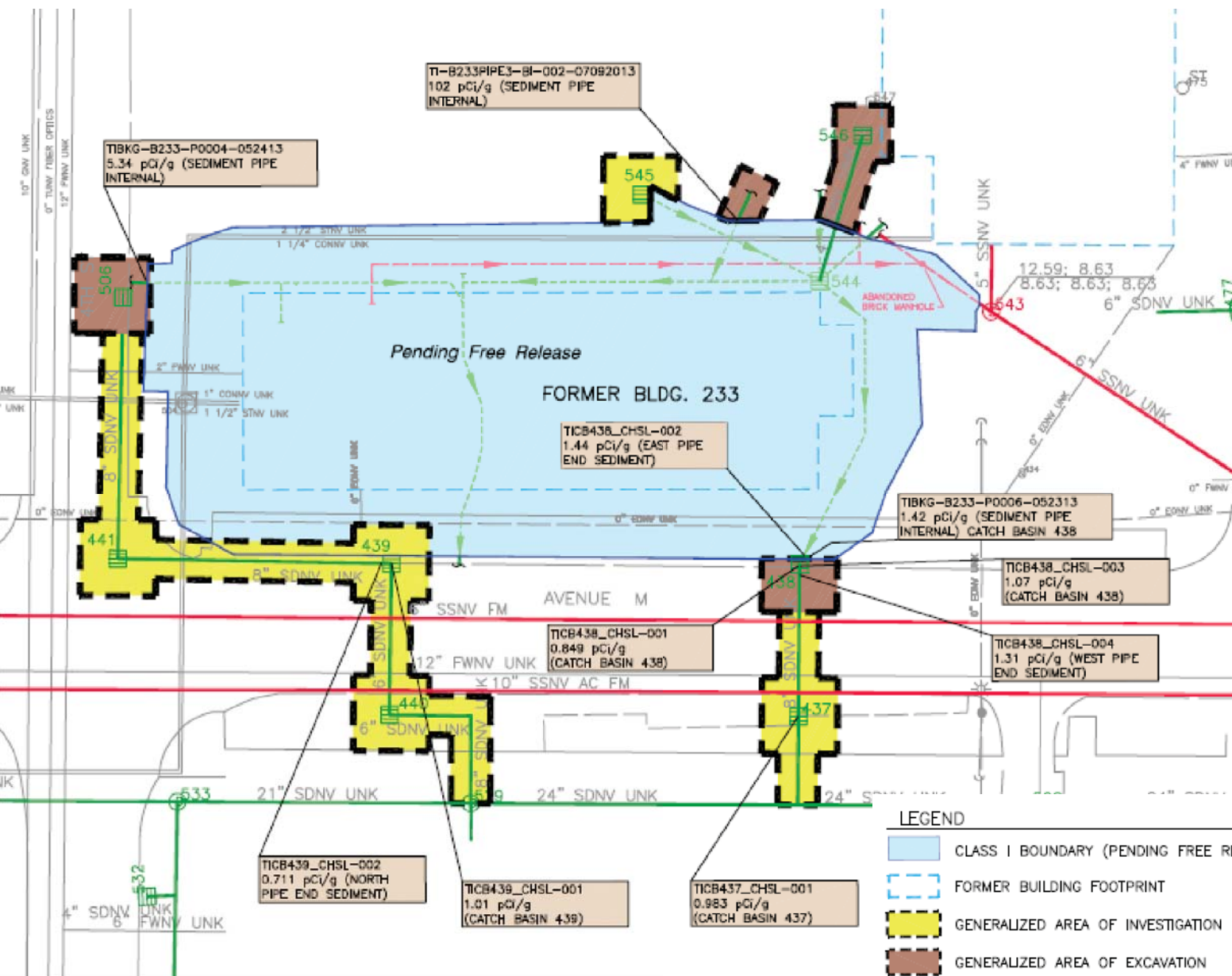
Radiological Surveys at Various Areas Building 233 & Force Main Former Naval Station Treasure Island

October 2015 BCT Meeting

Danielle Janda, Navy Remedial Project Manager

October 21, 2015

Selected Storm and Wastewater Sewer Lines, Building 233



Selected Storm and Wastewater Sewer Lines, Building 233



- Investigated catch basins (CBs) in May 2015
- Excavated CBs 438, 506, 546 in July 2015
- Results from CBs 441, 439, 440, 437, and 545 were below TI screening criterion but above average background
- As a conservative measure, Navy is removing the CBs.
- Field Schedule
 - Field duration is 7 weeks (including excavation, soil processing, sample analysis, data package preparation, and backfilling)
 - Excavation will begin November 9, after Oracle demobilizes from TI

Questions?



Force Main - Work Completed to Date

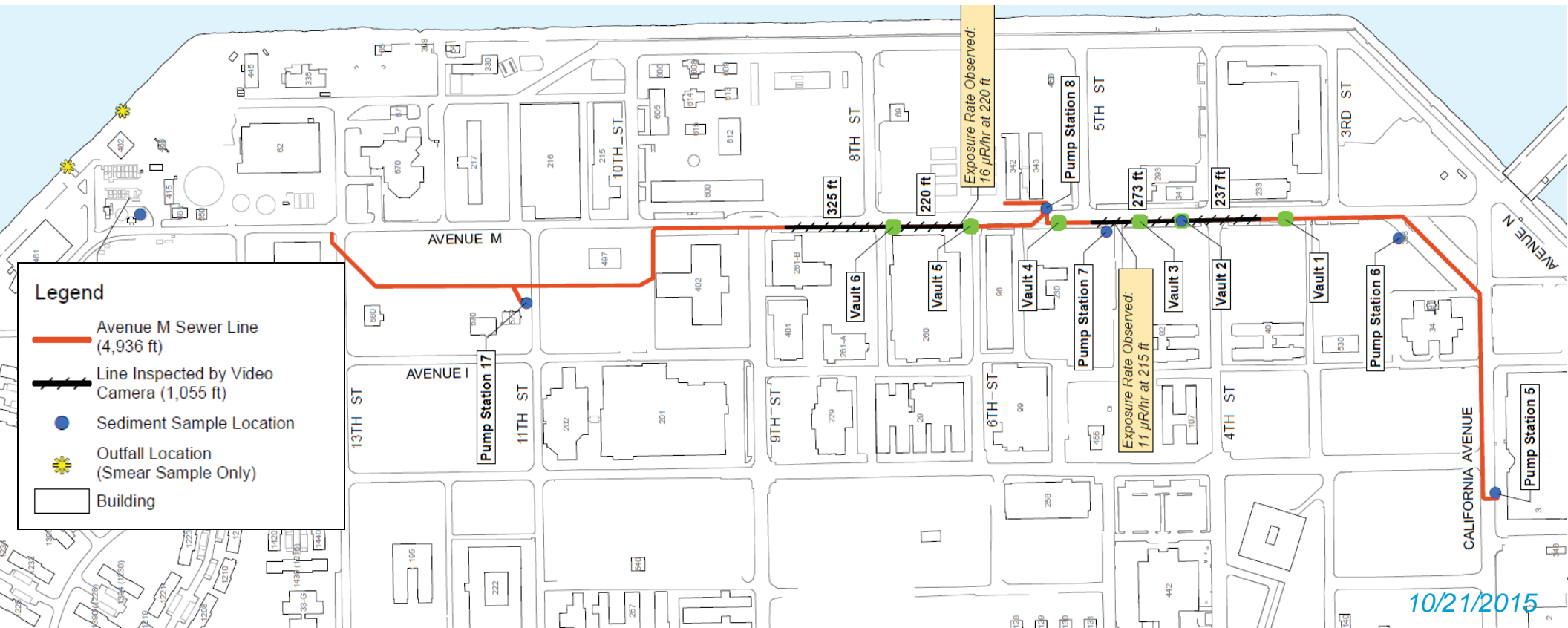


- **Successfully performed LOTO**
- **Video camera investigation – August 12 and 19**
 - **August 12, 2015**
 - Video Camera and Radiological Detector inserted in Vault 6
 - Heavy hard scale (crust-like)/deposits observed in the line
 - North Direction: the camera/detector could not continue after 325 ft due to hard deposits
 - South Direction: the camera/detector was obstructed after 220 ft by a thin, rod-like object
 - **August 19, 2015**
 - Video Camera and Radiological Detector inserted in Vault 2
 - Heavy hard scale (crust-like)/deposits observed in the line
 - North Direction: the camera/detector was obstructed at 273 ft due to an unknown object underneath water
 - South Direction: the camera/detector was obstructed at 237 ft due to hard deposits
- **Sediment sampling – August 19, 27, 31 and October 5**

Force Main Gamma Survey Observations



- Ambient Readings were typically between 6 and 10 $\mu\text{R/hr}$
- Two locations identified as slightly above ambient readings:
 - 11 $\mu\text{R/hr}$ North of Vault 2
 - 16 $\mu\text{R/hr}$ South of Vault 6

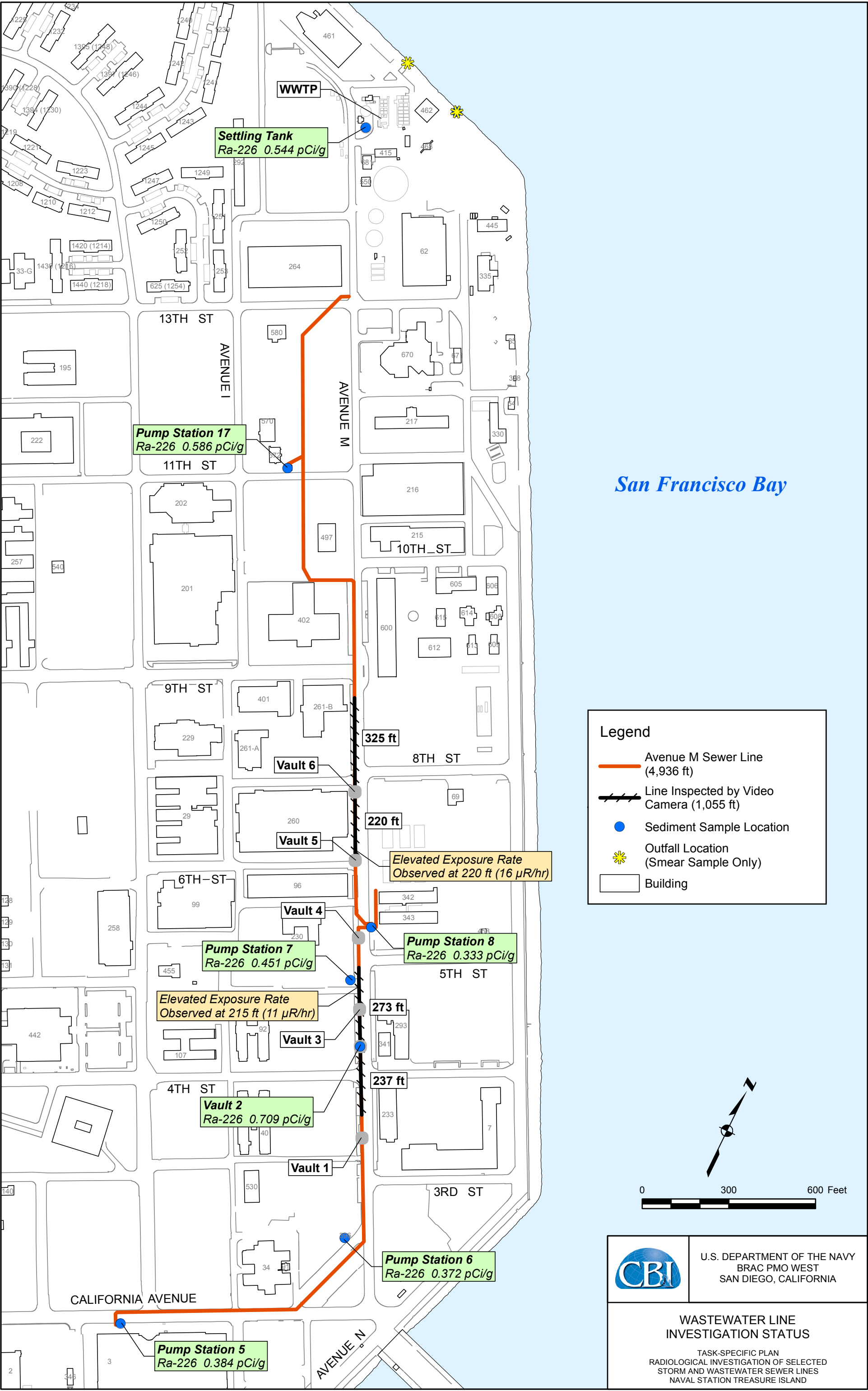


Force Main Sediment Samples



Sample Location	Date Collected	Ra-226 Results (pCi/g)	MDC
Pump Station 5*	8/27/2015	0.384	0.0676
Pump Station 6*	8/27/2015	0.372	0.0879
Vault 2*	8/19/2015	0.709	0.0786
Pump Station 7	8/27/2015	0.451	0.115
Pump Station 8*	8/27/2015	0.333	0.0280
Pump Station 17*	8/27/2015	0.586	0.0380
WWTP Settling Tank*	8/31/2015	0.544	0.0833
WWTP Settling Tank*	10/5/2015	Results pending	

* - Sample volume insufficient for analysis by gamma spectroscopy. Therefore, sample analyzed by alpha spectroscopy.



Force Main Challenges



- **Lock out/tag out (LOTO)**
 - Limited LOTO one day a week and for 8 hours a day
 - Water remaining in low points of force main after LOTO
- **Backflow preventers not guaranteed to be operating**
- **Limited access points**
 - Five (5) pump stations along California Ave and Avenue M
 - Six (6) vaults along Avenue M
- **Small sample volumes from pump stations**
- **Several unknowns including**
 - Flow rate, volumes
 - Maintenance schedule and previous repairs
 - Pipe materials, diameters
- **Heavy hard deposits (crust-like) and scale in line**
- **Obstructions in line**

Force Main Challenges - Photographs



Water in Vault 6 after LOTO



Obstruction (pipe spacer?) in Pipe

Force Main Challenges - Photographs



Removing water from Vault 6, visible sludge



Small sample volume from Vault 2

Force Main Challenges - Photographs



MH 233 TO MH V006
8/12/2015 Various Site 15:15

221.7
Abandoned Survey
can not pass attached encrustation

Obstructions under water preventing camera from moving forward

MH Pump Sta TO MH Vault 2
8/19/2015 Various Site 16:10

237
Abandoned Survey
can not pass debris below flowline

Force Main – Pump Stations



Pump Station 8 Interior



Sampling Pump Station 6

Force Main - Vaults



Vault 1



Vault 2

Force Main - Vaults



Vault 3



Vault 4

Force Main - Vaults

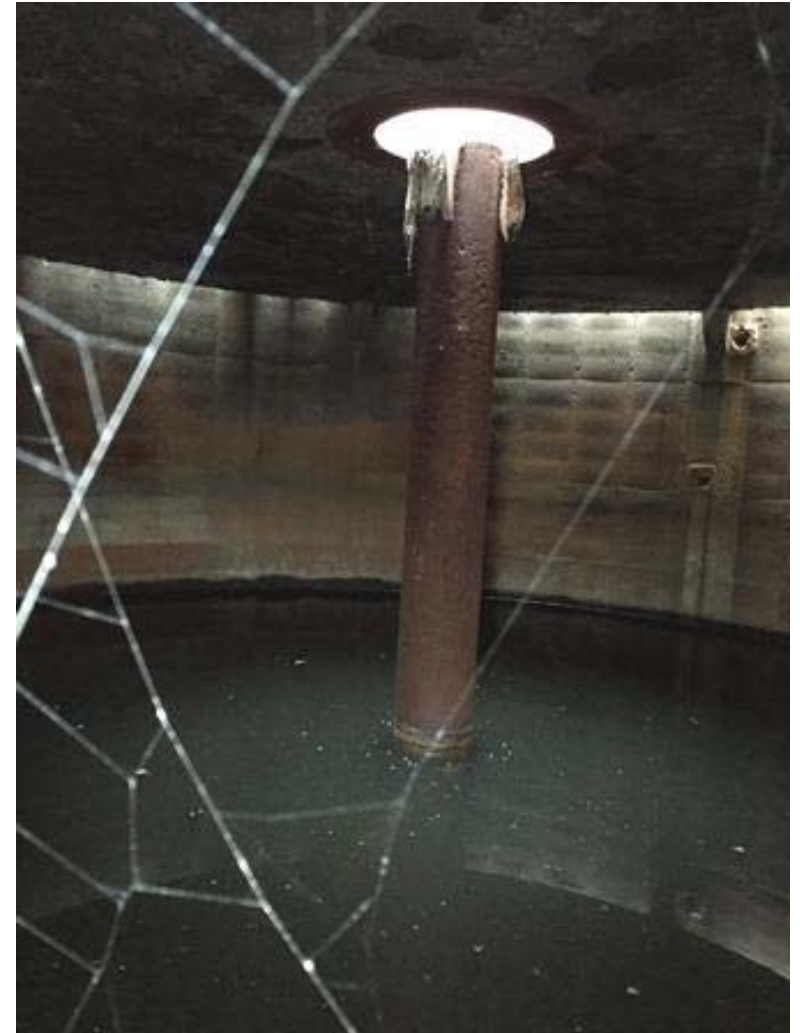


Vault 5



Vault 6

WWTP – Settling/Storage Tank



Force Main Path Forward Discussion



- Reasonable effort has been made to characterize the line
- Have a data set that characterizes the line which includes:
 - Qualitative scan data of available sections of line
 - Sediment samples from pump stations, vault 2, and storage tank
- Data do not exhibit evidence of elevated radioactivity in the line

Reports for Radiological Surveys Parts I and II

Schedule

Draft Building 3 FSS	October 2015
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Draft Characterization Survey Report of Wastewater Lines Downstream from Former Building 233 (Part I)	October 2015
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Draft Site 32A FSS	November 2015
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Draft TI Northeast Corner FSS	November 2015
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Draft Site 24 Areas FSS	December 2015
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Draft Site 20 FSS	October 2015
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Draft Selected Storm and Wastewater Lines FSS Report (Part II)	November 2015
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Draft Site 30/31/30N/30S FSS	July 2016
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Questions?

